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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/786,781	02/25/2004	Sheng-Hsin Hu	K-C 16029.1	3777

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EXAMINER	
TSOY, ELENA	

ART UNIT	PAPER NUMBER
1762	

DATE MAILED: 08/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/786,781	HU ET AL.	
	Examiner	Art Unit	
	Elena Tsoy	1762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 June 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *20,21 and 23-36* is/are pending in the application.

4a) Of the above claim(s) *34-36* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *20,21 and 23-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Response to Amendment

Amendment filed on 6/15/2006 has been entered. Claims 1-19 and 22 have been cancelled. New claims 24-36 have been added. Claims 20, 21, 23-36 are pending in the application.

Election/Restrictions

1. Newly submitted claims 34-36 directed to an invention that is independent or distinct from the invention originally claimed for the following reasons: claim 34 recites organo-metallic ester masking agent which is described by the specification as filed as alternative embodiment, where a liquid solution of organo-metallic ester is sprayed on the particle which subsequently reacts to form an opaque pigment (See specification, page 19, lines 22-26).

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, **claims 34-36 are withdrawn from consideration as being directed to a non-elected invention**. See 37 CFR 1.142(b) and MPEP § 821.03.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 20, 21, and 23-33 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claims 20 and 24 recite "**at least** 20 % solids" which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The specification as filed discloses only a solids content of 20% (See Example 1, page 22, lines 12-13).

4. Claims 20, 21, and 23-33 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. One of ordinary skill in the art would have no reasonable expectation of success in achieving a Relative Adsorption Efficiency of claimed **at least 70% or 90%** (i.e. including **100%**) from an activated carbon coated with a composition containing 95 wt % of a binding agent and 5 wt% of masking agent, with add-on level of at least 10 wt%, e.g. 300 wt% as described in specification on page 2, line 20 because the surface of the activated carbon would be covered by a coating layer containing 95 wt % of resin binder and only 5wt % of the masking agent. The 5wt % of the masking agent would hardly be able to break up the binder film to improve transport of odoriferous agents across the coating material, as described in specification on page 3, lines 12-21.

5. Claims 20, 21, and 23-33 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling in achieving a Relative Adsorption Efficiency of claimed **at least 70% or 90%** (i.e. including **100%**) by coating active carbon with a coating material having 20wt% solids wherein a masking agent is used in an amount much greater than the amount of the binder, e.g. 95 wt% of the masking agent at add-on level of up to 300 %, does not reasonably provide enablement for achieving a Relative Adsorption Efficiency of claimed **at least 70%** (i.e. including **100%**) by coating active carbon with a coating material having 20wt% solids wherein a masking agent is used in an amount of only 5wt% at add-on level of 300 %. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 33 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 33 recites the limitation "the pigment" in line 1. There is insufficient antecedent

basis for this limitation in the claim. For examining purposes the phrase was interpreted as "the masking agent"

Claim Objections

8. Claims 20, 21, 24 and 25 are objected to because of the following informalities:
Claim 20 and 24, "at least 20 % solids" should be changed to "at least 20 % solids by weight".
Claim 21, line 1, "The method ofClaim20" should be changed to "The method of Claim 20".
Claim 25, line 1, "The method ofClaim24" should be changed to "The method of Claim 24".

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. Rejection of Claims 1-4, 6, 8-11, 13, 17, 18, 20-21, 23 under 35 U.S.C. 103(a) as being unpatentable over Hiltzik et al (US 20030082382) has been withdrawn due to amendment.

11. Rejection of Claims 1-4, 6, 8-11, 13, 17, 18, 20-21, 23 under 35 U.S.C. 103(a) as being unpatentable over Hiltzik et al in view of Karapasha (WO9112030) has been withdrawn due to amendment.

12. Rejection of Claims 1-4, 6-11, 13, 17, 18, 20-21, 23 under 35 U.S.C. 103(a) as being unpatentable over Karapasha in view of Hiltzik et al has been withdrawn due to amendment.

13. Rejection of Claim 7 under 35 U.S.C. 103(a) as being unpatentable over Hiltzik et al /Karapasha in view of Hiltzik et al/, further in view of Cavezzan et al (US 4,954,539) has been withdrawn due to cancellation of the claim.

14. Rejection of Claim 22 under 35 U.S.C. 103(a) as being unpatentable over Hiltzik et al /Hiltzik et al in view of Karapasha/Karapasha in view of Hiltzik et al/, and further in view of Hogenson (US 4,643,783) has been withdrawn due to cancellation of the claim.

15. Claims 20-21, 24-28, and 30-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Urbanic (US 3746655) in view of Ohnishi (US 6147169), further in view of Hiltzik et al (US 20030082382).

Urbanic teaches that color coated particulate activated carbon may be made practically without sacrificing its adsorptivity (claimed at least 70% or 90% of Relative Adsorption Efficiency) by utilizing a *powder* coating composition comprising a resin such as polyethylene (PE) (See column 1, lines 44-48) as a binder in an amount of less than 15 wt % of the carbon (See column 2, lines 13-17) and a pigment such as titanium dioxide (claimed masking agent) (See column 2, line 23) in an amount not *more* than about **80% by weight** of the resin (See column 2, lines 18-27). The amount of resin used may be anywhere in the range of 1% to 15% by weight of the carbon, although an amount in the upper end of this range should be selected only when a **small** portion of *adsorptive* capacity may be *sacrificed* (See column 2, lines 13-16). Preferably the resin will be about 2% to 5 % of the weight of the carbon (See column 2, lines 16-17). The pigment should not be used in amounts *more* than about **80% by weight** of the resin unless the unbound pigment can be easily disposed of (See column 2, lines 18-27). In a *preferred* method, a mixture of the pigment and resin particles are added to granular activated carbon to coat the carbon granules, then the coated carbon particles are heated to fuse the coating (See column 1, lines 67-72; column 2, lines 1-13). Thus, Urbanic teaches a method for producing coated activated carbon material *without* sacrificing its adsorptivity, comprising providing activated carbon material, combining a binding agent in an amount of up to **15 wt%** of carbon (claimed add-on level of at least 10 wt%) and a masking agent in an amount of **up to 80 wt%** of *the resin* to form a *powder* coating composition (claimed at least 20 wt% solids), coating the activated carbon material with the coating powder, heating the coating powder to form a coating material, wherein the coating material on the activated carbon material is substantially water insoluble.

Urbanic fails to teach that a coating is applied in a form of coating liquor.

Ohnishi teaches that a coating composition may include a *powder* coating composition, water-based coating composition, *liquid* coating composition having a solid content of 100%, and organic solvent based coating composition having about 50 wt% of solids (See column 7, lines 17-21, 66). In other words, Ohnishi teaches that a coating composition may be formulated in the form

of either a *powder* coating composition or solvent based *liquid* coating composition having about 50 wt% of solids.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have formulated a coating composition of Urbanic in the form of solvent based coating composition having about 50 wt% of solids since Ohnishi teaches that a coating composition may be formulated in the form of either a *powder* coating composition or solvent based *liquid* coating composition having about 50 wt% of solids.

Urbanic in view of Ohnishi fails to teach that: (i) a coating liquor is applied to the carbon particles using a fluidized bed; (ii) silicone compound is used as a binder instead of PE (Claims 20, 24).

As to (i, ii), Hiltzik et al teach that color coated activated carbon can be produced by spraying a liquid coating composition containing either PE or polysiloxane such as *silicone* emulsion as a binder (See Table I) and a pigment such as Polar White (titanium dioxide) (See Table VIII) to activated carbon fluidized in a bed (See P30).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have sprayed a liquid coating composition of Urbanic in view of Ohnishi to activated carbon fluidized in a bed with the expectation of providing the desired color coated activated carbon since Hiltzik et al teach that color coated activated carbon can be produced by spraying a liquid coating composition containing either PE or polysiloxane such as *silicone* emulsion as a binder and a pigment such as Polar White (titanium dioxide) to activated carbon fluidized in a bed.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used silicone emulsion as a binder in Urbanic in view of Ohnishi instead of PE with the expectation of providing the desired color coated activated carbon since Hiltzik et al teach that either PE or polysiloxane such as *silicone* emulsion can be used as a binder to produce color coated activated carbon.

It is the Examiner's position that the color coated particulate activated carbon in Urbanic in view of Ohnishi, further in view of Hiltzik et al would have claimed properties, e.g. claimed at least 70% or 90% of Relative Adsorption Efficiency and the pigment has claimed absolute HunterLab "a" value or absolute HunterLab "b" value greater than 10, since it is prepared and processed by methods substantially identical to that of claimed invention. It is held that where the

claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, claimed properties or functions are presumed to be inherent. See MPEP 2111.02, 2112.01.

16. Claims 20-21, 23, 24-28, and 30-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hiltzik et al in view of Urbanic and Ohnishi.

Hiltzik et al are applied here for the same reasons as set forth in paragraph 4 of the Office Action mailed on 3/13/2006.

Hiltzik et al fail to teach that a pigment such as titanium dioxide can be used in an amount of up to **80% by weight** of the resin, and a binding agent such as PE or silicone can be used in an amount of up to **15 wt%** of carbon (claimed add-on level of at least 10 wt%) for preparing color coated activated carbon *without* sacrificing its adsorptivity.

Urbanic teaches that a pigment such as titanium dioxide can be used in an amount of up to **80% by weight** of the resin, and a binding agent such as PE can be used in an amount of up to **15 wt%** of carbon (claimed add-on level of at least 10 wt%) for preparing color coated activated carbon *without* sacrificing its adsorptivity (See above). Ohnishi teaches that a coating layer may be made by applying a coating composition in the form of either of a powder coating composition or a liquid coating composition (See above).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a pigment such as titanium dioxide in an amount of up to **80% by weight** of the resin, and a binding agent such as PE or silicone in an amount of up to **15 wt%** of carbon (claimed add-on level of at least 10 wt%) in a coating composition of Hiltzik et al with the expectation of providing the desired color coated activated carbon *without* sacrificing its adsorptivity since Urbanic teaches that a pigment such as titanium dioxide can be used in an amount of up to 80% by weight of the resin, and a binding agent such as PE can be used in an amount of up to 15 wt% of carbon for preparing color coated activated carbon without sacrificing its adsorptivity, and Ohnishi teaches that a coating layer may be made by applying a coating composition in the form of either of a powder coating composition or a liquid coating composition.

It is the Examiner's position that the color coated particulate activated carbon in Hiltzik et al in view of Urbanic and Ohnishi would have claimed properties, e.g. claimed at least 70% or

90% of Relative Adsorption Efficiency and the pigment has claimed absolute HunterLab "a" value or absolute HunterLab "b" value greater than 10, since it is prepared and processed by methods substantially identical to that of claimed invention.

17. Claims 20-21, and 23-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Karapasha (WO9112030) in view of Hiltzik et al, further in view of Urbanic and Ohnishi.

Karapasha in view of Hiltzik et al are applied here for the same reasons as set forth in paragraph 4 of the Office Action mailed on 6/13/2005.

Karapasha in view of Hiltzik et al fail to teach that a pigment such as titanium dioxide can be used in an amount of up to **80% by weight** of the resin, and a binding agent such as PE or silicone can be used in an amount of up to **15 wt%** of carbon (claimed add-on level of at least 10 wt%) for preparing color coated activated carbon *without* sacrificing its adsorptivity.

Urbanic and Ohnishi are applied here for the same reasons as above.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a pigment such as titanium dioxide in an amount of up to **80% by weight** of the resin, and a binding agent such as PE or silicone in an amount of up to **15 wt%** of carbon (claimed add-on level of at least 10 wt%) in a coating composition of Karapasha in view of Hiltzik et al with the expectation of providing the desired color coated activated carbon *without* sacrificing its adsorptivity since Urbanic teaches that a pigment such as titanium dioxide can be used in an amount of up to 80% by weight of the resin, and a binding agent such as PE can be used in an amount of up to 15 wt% of carbon for preparing color coated activated carbon without sacrificing its adsorptivity, and Ohnishi teaches that a coating layer may be made by applying a coating composition in the form of either of a powder coating composition or a liquid coating composition.

It is the Examiner's position that the color coated particulate activated carbon in Karapasha in view of Hiltzik et al, further in view of Urbanic and Ohnishi would have claimed properties, e.g. claimed at least 70% or 90% of Relative Adsorption Efficiency and the pigment has claimed absolute HunterLab "a" value or absolute HunterLab "b" value greater than 10, since it is prepared and processed by methods substantially identical to that of claimed invention.

18. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Urbanic in view of Ohnishi in view of Hiltzik et al/Hiltzik et al in view of Urbanic and Ohnishi/, further in view of Cavezzan et al (US 4,954,539).

Urbanic in view of Ohnishi in view of Hiltzik et al/Hiltzik et al in view of Urbanic and Ohnishi/ are applied here for the same reasons as above. Urbanic in view of Ohnishi in view of Hiltzik et al/Hiltzik et al in view of Urbanic and Ohnishi/ fail to teach that the coating liquor comprises a catalyst.

Cavezzan et al teaches that silicone emulsions comprising a particular tin crosslinking catalyst less foul coating apparatus and combine very good reactivity with a sufficient bath pot life (See column 1, lines 59-64).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used silicone emulsions comprising a particular tin crosslinking catalyst as a coating liquid in Urbanic in view of Ohnishi in view of Hiltzik et al/Hiltzik et al in view of Urbanic and Ohnishi/ with the expectation of providing the desired less fouling of coating apparatus and very good reactivity with a sufficient bath pot life, as taught by Cavezzan et al.

Response to Arguments

19. Applicant's arguments with respect to claims 20, 21, 23-36 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

20. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

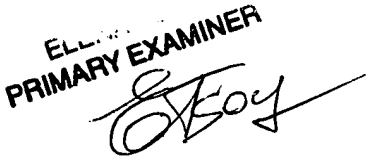
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elena Tsoy whose telephone number is 571-272-1429. The examiner can normally be reached on Monday-Thursday, 9:00AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Elena Tsoy
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Art Unit 1762

August 1, 2006